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FOREST STATISTICS FOR YAKIMA COUNTY, WASHINGTON

U. S. Forest Service. Pacific Northwest Forest Experiment Station

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION

ADDRESS REPLY TO
DIRECTOR
AND REFER TO
R-NW
Forest Survey

424 U. S. COURT HOUSE
MAIN AND SIXTH STREETS
PORTLAND, OREGON

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April 20, 1936

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Director,
Calif. Forest & Range Experiment Sta.,
331 Giannini Hall,
Berkeley, Calif.

Dear Sir:

Enclosed is a copy of the report for Yakima County, Washington. This is the third of the Forest Survey reports for counties in eastern Oregon and eastern Washington. Similar reports for Klamath and Wasco Counties, Oregon, have already been published and sent you. You have also been sent the explanatory text which should be read in connection with the reports for all counties in eastern Oregon and eastern Washington.

Very truly yours,

Thornton T. Munger

THORNTON T. MUNGER, Director

Enclosure

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

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FOREST STATISTICS
FOR
YAKIMA COUNTY, WASHINGTON

FROM THE INVENTORY PHASE OF THE FOREST SURVEY

Forest survey report 1064

U. S. DEPARTMENT OF AGRICULTURE — FOREST SERVICE
PACIFIC NORTHWEST FOREST EXPERIMENT STATION
THORNTON T. MUNGER, DIRECTOR

H. J. ANDREWS, IN CHARGE OF FOREST SURVEY — R. W. COWLIN, ASSISTANT

EDWARD D. BUELL, IN CHARGE OF FIELD AND OFFICE WORK
IN YAKIMA COUNTY

PORTLAND, OREGON — APRIL 1, 1936

CALIFORNIA FOREST & RANGE EXPERIMENT STATION
330 GIANNINI HALL, UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA

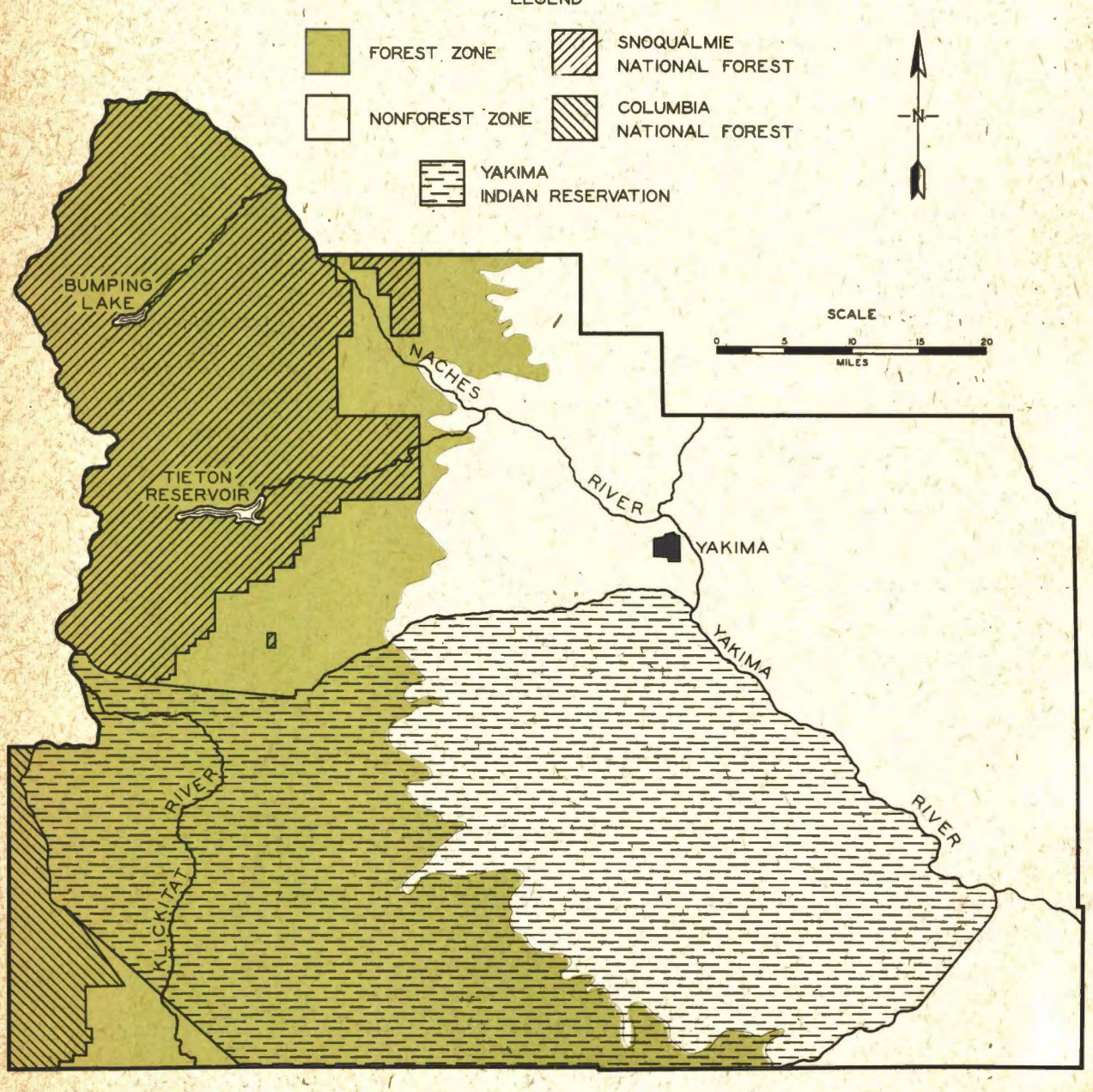
FIGURE I

OUTLINE MAP

OF

YAKIMA COUNTY WASHINGTON

1936



FOREST STATISTICS OF YAKIMA COUNTY, WASHINGTON

By Edward D. Buell[1/]

This report presents results of a survey made during 1933-34 by the Forest Service as a part of a national study of forest resources. It gives only preliminary statistics of the forest inventory of Yakima County, Washington,[2/] summarized in four tables and four figures. A description of methods used in the survey, and detailed definitions of types, are given in "The Forest Survey of Eastern Oregon and Eastern Washington", an explanatory text that should be read in connection with the forest statistics for the county.

Location and Description of County

Located in the south-central part of Washington, Yakima County extends from the summit of the Cascade Range east approximately 80 miles, and from the divide between the Yakima and Naches Rivers south approximately 75 miles (figure 1). Its land area totals 3,238,000 acres, exceeding that of all but one other county in the State. In topography it varies from level or rolling valley lands in the east and central portions to rough mountain slopes in the west portion. Elevations range from approximately 500 feet at the Columbia River to 12,703 feet at the summit of Mount Adams. Nearly 90 percent of the county is drained by streams tributary to the Yakima River; the remainder is drained by the Klickitat River. Western Yakima County has an abundance of streams and a few large lakes, such as Tieton and Bumping. Over most of the county little rain falls in summer, and the agricultural portion requires intensive irrigation.

1/ THE FIELD AND OFFICE WORK OF THE FOREST SURVEY OF YAKIMA COUNTY WAS DONE BY EDWARD D. BUELL, P. A. BRIEGLEB, P. N. PRATT, W. E. SANKELA, C. S. SMITH, W. V. S. LITCHFIELD, L. E. TUCKER, W. E. PELTO, R. H. EDDY, L. W. HUNTINGTON, R. W. COX, GEORGE FROST, G. N. ALLMAN, A. W. HODGMAN, AND F. H. VOGEL.

2/ OREGON AND WASHINGTON WERE DIVIDED FOR PURPOSES OF THE SURVEY INTO TWO REGIONS, (1) THE DOUGLAS FIR REGION, CONSISTING OF THAT PART OF BOTH STATES WEST OF THE SUMMIT OF THE CASCADE RANGE, AND (2) EASTERN OREGON AND EASTERN WASHINGTON, THAT PART OF BOTH STATES EAST OF THE SUMMIT OF THE CASCADE RANGE. EACH REGION WAS DIVIDED INTO FOREST-SURVEY UNITS COMPOSED OF ONE OR MORE COUNTIES. AT A LATER DATE A REPORT WILL BE ISSUED FOR EACH SURVEY UNIT PRESENTING A TEXTUAL DESCRIPTION OF THE UNIT, DETAILED INVENTORY SUMMARIES, AND STATISTICS OF GROWTH AND DEPLETION ANALYZED IN THE LIGHT OF THE INVENTORY. FINALLY, A REGIONAL REPORT WILL BE ISSUED WHICH WILL SUMMARIZE THE UNIT REPORTS, PRESENTING AND DISCUSSING FINDINGS FOR THE REGION AS A WHOLE. THE REGIONAL REPORT WILL INCLUDE AN INTERPRETATION OF THE FOREST-SURVEY DATA AS RELATED TO OTHER ECONOMIC DATA AND A COMPREHENSIVE ANALYSIS OF THE REGIONAL FOREST SITUATION FROM BOTH A PHYSICAL AND AN ECONOMIC STANDPOINT.

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BERKELEY, CALIFORNIA

Major Resources

Yakima County has two major resources, its farms and its forests. The agricultural resource is the more important, although only 18.5 percent of the county area was classified by the U. S. Census of 1930 as land in farms. Agricultural development is mainly in the valleys of the Yakima River and its principal tributaries, where environmental factors and irrigating facilities favor fruit growing. The principal fruits grown are apples, cherries, apricots, plums, and peaches. General farming, stock raising, and dairy farming follow fruit growing in importance, potatoes and hay being the chief field crops. Practically all crop land is irrigated. Cattle and sheep are grazed on the forest range in summer, and in winter are grazed on the open range and when necessary are given supplemental feed.

The forest land, composing approximately one-third of the total county area, is located almost entirely in the western portion, where it forms a continuous zone covering the eastern slopes of the Cascade Range and extends into the foothills in the form of narrow stringers along streams. The most common forest-tree species are ponderosa pine, Douglas fir, and western larch. Other species having saw-timber volume are the balsam firs, mountain hemlock, western hemlock, Engelmann spruce, western white pine, western red cedar, Alaska cedar, and lodgepole pine. Forest composition varies considerably; the most important species are ponderosa pine in the east and south and the balsam firs, hemlocks, Douglas fir, and western larch in the west and north, particularly at the headwaters of the Naches River and its tributaries.

In addition to production of commercial timber, the forests of Yakima County have three economically important uses: first, they protect watersheds that supply the irrigation systems on which the agriculture of the county is almost entirely dependent; second, they are used as summer range for stock; third, they offer inducements and facilities for recreation.

By far the larger part of the county's forest area and of its timber volume is on the Snoqualmie and Columbia National Forests and the Yakima Indian Reservation (tables 1 and 2, figure 3). The Federal Government owns 42 percent of the forest land and approximately the same percentage of the saw-timber volume. Indians own almost 500 thousand acres of forest land, and 3½ billion board feet of saw timber. The remainder of the forest resource, approximately 200,000 acres of land and 1½ billion board feet of timber, is owned privately, by the State, and by the county.

Forest Cover Types

A total of 29 forest cover types occupying an area of 1,172,070 acres were mapped in Yakima County. Data on forest-type areas, together with data on areas of nonforest land (types 1 and 2), are presented in tables 2 and 3 and figure 4.

A true picture of the location and distribution of the various timber types in Yakima County is best obtained by study of the inch-to-the-mile forest-survey type map of the county.[3/] This map shows that the broad forest zone is divided into two main parts, that occupied by ponderosa pine types and that occupied by all other forest types.

The ponderosa pine belt forms the eastern part of the forest zone. It is from 10 to 20 miles wide in the northern part of the county, and fans out to a width of about 45 miles in the southern part. It is occupied principally by mature stands of pure pine; on an area about 10 miles wide and 15 miles long in the south-central part, the stands are immature. Along most of the main streams, long fingers of the ponderosa pine type extend westward far into the upper-slope mixture and fir-mountain hemlock belt, in some instances to within a few miles of the summit of the Cascade Range.

Forest stands of commercial size and form chiefly of the upper-slope, Douglas fir, and fir-mountain hemlock types are found at higher elevations, between the ponderosa pine belt and the summit of the Cascade Range. Along the Cascade summit and on the upper parts of the various ridges, between the main drainages, are considerable areas of rocky slopes with scattered trees only and of subalpine types, and large areas of open barren land. The largest continuous area of subalpine and nonforest types is one of more than 25,000 acres in the southwest part of the county, in the vicinity of Mount Adams.

Ponderosa Pine Types

Types in which ponderosa pine is the key species occupy 592,810 acres, or nearly 60 percent of the total forest land in the county. Nearly all the stands are of saw-timber size; only 28,305 acres of ponderosa pine forest is less than 12 inches in d.b.h.

The mature pine types (types 20.5, 20, and 27) occupy 438,245 acres. In addition there is 16,365 acres of pine woodland (type 5½), which is a mature pine type but because of its low volume per acre has but slight commercial importance. Pure ponderosa pine (type 20.5) is the most important individual forest type in the county and occupies approximately 275,000 acres. Stands of this type have a relatively high stumpage value, and generally occur in accessible locations. Their volume per acre ranges from 2 M to 30 M board feet, averaging about 7 M to 9 M board feet. In the main they are of good quality, with a low defect and breakage factor. In stands of the other mature pine types (types 20 and 27), a considerable percentage of the volume consists of other species; even so, often the pine volume per acre is large. Some of the best stands of timber in the county, in the drainage basin of the Klickitat River, were classified as of types 20 and 27. The total area of types 20 and 27 in the county is 162,180.

3/ FULL INFORMATION REGARDING FOREST-SURVEY MAPS OF OREGON AND WASHINGTON AND DIRECTIONS FOR OBTAINING THEM WILL BE FURNISHED UPON REQUEST.

Small ponderosa pine (type 21) occupies 109,895 acres, including 87,680 acres in Indian ownership. Most of the depletion by insects, fire, and cutting in the county, has taken place in old-growth ponderosa pine (type 20.5), and most of it has effected a conversion to all-aged stands of pure or nearly pure ponderosa pine (type 21). A severe epidemic of a defoliating insect, the pine butterfly (Neophasia menapia), occurred in Cedar Valley on the Yakima Indian Reservation about 1893-95, with the result that a considerable volume of mature ponderosa pine was killed on an area of approximately 86,000 acres. Nearly the whole of the area affected is now occupied by type 21, with an overstory averaging about 5 M board feet per acre and an understory in which poles $3\frac{1}{2}$ to $11\frac{1}{2}$ inches in diameter average about 100 to the acre. On some other type 21 areas, the old-growth stand was killed by the western pine beetle (Dendroctonus brevicomis). Considerably more than half the total type 21 area is well or medium stocked.

Ponderosa pine seedlings (type 22) occupy 17,234 acres, and small pine mixture (type 28) 11,070 acres. These two acreages include 14,865 acres of cut-over land. This constitutes about half the pine land in the county that has been cut over, type 21 occupying most of the remainder. Approximately 15,000 acres of ponderosa pine land has been selectively logged, 13,000 acres has been practically clear cut and has restocked, and 500 acres has been clear cut and has not restocked.

Other Major Coniferous Types

Coniferous types other than ponderosa pine and lodgepole pine include the Douglas fir, fir-mountain hemlock, upper-slope mixture, white fir, and cedar types. These occupy a total area of 376,335 acres extending from the ponderosa pine belt west to the summit of the Cascade Range. The Douglas fir and the upper-slope mixture types as a general rule occur at lower elevations than the fir-mountain hemlock types, although they intermingle with them to a considerable extent. Neither the white fir nor the cedar type is commercially important at present.

Stands of the Douglas fir types are practically all of merchantable size, and have a total extent of 15,355 acres. Only a very small part of their volume is in trees more than 40 inches in d.b.h., and these trees are inferior in quality to the Douglas fir of the same diameter class west of the Cascade Range. A large proportion of the stands are made up of trees aged 150 to 200 years or more, rough in appearance and containing only a small percentage of clear logs.

Stands of the upper-slope types (types $27\frac{1}{2}$ and $28\frac{1}{2}$) contain as many as 6 or 7 different species in mixture. Western larch is the tree occurring most frequently and Douglas fir is very commonly associated with it. Often these two species make up from 40 to 70 percent of the stand. At high elevations and along streams, Engelmann spruce and alpine fir are important components of the mixture. The total upper-slope type area in the county is 231,515 acres, of which 78 percent is in type $27\frac{1}{2}$. Type $28\frac{1}{2}$ occurs only on old burns.

The fir-mountain hemlock forests (types 23 and 24) are located on the high slopes of the mountains below the subalpine zone and consist almost entirely of pulp species, namely balsam firs and hemlocks. The volume of silver fir, alpine fir, and mountain hemlock greatly exceeds that of noble fir and western hemlock. The commercial importance of these types is potential rather than present, owing mainly to the rugged character of the land on which they occur and its remoteness from manufacturing points. The total area occupied by type 23 is 100,580 acres. Fire and snowslides have converted the forests on 25,515 acres (approximately 20 percent) of the fir-mountain hemlock area from type 23 to type 24 (immature stands).

Forests of these types are used for grazing, and are particularly valuable for watershed protection.

Other Forest Types

The remaining forest types are subalpine, lodgepole pine, noncommercial rocky areas, nonstocked areas, hardwoods, and oak woodland. In regard to this group two important facts are apparent: first, the very small area of commercial forest land without forest cover; and second, the large area of noncommercial forest land, that is, land incapable of producing commercial forest stands. Of the total forest area of 1,172,070 acres only 9,385 acres is now deforested as a result of fire or logging. The noncommercial forest lands, together with lands on which the predominating species is lodgepole pine, while not important in timber production, protect 182,690 acres of land from abnormal erosion and add materially to the county's recreational values.

Saw-Timber Volume

The total saw-timber volume in Yakima County is 9,167,720 M board feet. The species distribution of this volume is shown in table 1 and figure 2. Ponderosa pine makes up approximately half the total; Douglas fir and western larch take second and third place. The total for these three species is 6,573,789 M board feet, or slightly more than 70 percent of the total for all species.

The volume of Douglas fir saw timber is large in proportion to the area of Douglas fir saw-timber types, owing to the fact that Douglas fir timber of commercial character is usually present in saw-timber stands of nearly all types in the county. In types 27, 27½, and 23 Douglas fir often makes up from 20 to 40 or even 50 percent of the total volume, and in types 20, 17, and 29 it occurs commonly in smaller proportions.

The volume of western larch is principally in types 27½ and 27. The volume of the balsam firs, mountain hemlock, and western hemlock is largely restricted to type 23; some of it is in type 27½. The volume of other species such as Engelmann spruce, western red cedar, Alaska cedar, and western white pine is mainly in types 27½ and 23.

Hardwood species are relatively unimportant in this county. Northern black cottonwood and aspen, found along the major streams, have

a total volume of 19,291 M board feet. A few thousand cords of Oregon white oak, suitable for fuel use, is found in type 4.

Forest Industries

Forest-industry development has not gone far in Yakima County. Sawmills and other wood-using plants are few, and are confined almost entirely to the city of Yakima. Woods operations are even less important.

Logging

In 1934 four logging operations were in progress in the county, the total output of which for that year was about 8,000 M feet, log scale. All these operations were in the pine types.

On private land the usual cutting practice is to remove all the merchantable pine timber. This practice, in type 20 (ponderosa pine) and type 27 (pine mixture), leaves a residue of Douglas fir and western larch. In type 20.5, it leaves a very small volume of ponderosa pine. On the national forests selective cutting is practiced, leaving a reserve for a future cut. Horses or tractors are commonly used for logging, and trucks for hauling. The topography and types are favorable to light-equipment operation. Generally, logging is less expensive on pine lands than on other lands.

Most of the timber north and east of the Klickitat River drainage will find an outlet by way of Yakima; for the timber in that drainage, the natural outlet is to the south.

The lack of farm woods and the relative scarcity of sawmill waste in this county make the city of Yakima and the surrounding rural area a good market for forest fuel wood. Limb wood, insect-killed timber, and other material that would otherwise be left in the woods after logging is utilized as fuel. This type of wood utilization was noted particularly on the Naches area.

Wood-Using Industries

The sawmill of the Cascade Lumber Company, in Yakima, with its box factory and other accompanying plants, is the most important forest-industry unit in the county. This sawmill's rated capacity for an 8-hour shift is 130 M board feet. In and adjacent to Yakima are several small sawmills with a combined capacity of approximately 100 M board feet per 8-hour shift. About 30 miles west of Yakima, on Nile Creek, is a pine mill with a capacity of 40 M board feet. All these small mills saw ponderosa pine almost exclusively. Most of the lumber they produce is converted into box shook to be used in shipping fruit and vegetables raised in the irrigated valleys.

According to the lumber census of 1934, Yakima County's lumber production during that year was 40,431 M board feet. Most of this was manufactured from logs brought in from other counties.

FOREST STATISTICS FOR YAKIMA COUNTY, WASHINGTON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 1. VOLUME OF TIMBER BY SPECIES AND BY OWNERSHIP CLASS
DATA CORRECTED TO AUGUST 1, 1935

TREES 12" AND MORE IN D.B.H.
THOUSANDS OF BOARD FEET, LOG SCALE, SCRIBNER RULE

SURVEY SYMBOL	SPECIES 1/	PRIVATE	STATE, AVAILABLE FOR CUTTING	COUNTY	INDIAN, TRIBAL AND TRUST ALLOTMENT	FEDERAL				TOTAL
						PUBLIC DOMAIN, AVAILABLE FOR CUTTING	NATIONAL FOREST AVAILABLE FOR CUTTING	NATIONAL FOREST RESERVED FROM CUTTING	RAILROAD SELECTION PENDING	
Y	PONDEROSA PINE	628,553	445,900	2,241	2,370,145	3,443	798,444	74,443	59,473	4,382,642
W	WESTERN WHITE PINE	2,018	1,091		36,997		84,947	14,781	2,020	141,854
LP	LODGEPOLE PINE	5,815	6,794		24,944		103,915	9,519	2,929	153,916
DF	DOUGLAS FIR	86,277	60,711	236	463,101	105	601,442	149,734	21,692	1,383,298
C	WESTERN RED CEDAR	56			12,303		31,766	2,806		46,931
YC	ALASKA CEDAR	84	89		827		21,953	3,094	1,440	27,487
H	WESTERN HEMLOCK	328	67		762		92,142	22,313		115,612
MH	MOUNTAIN HEMLOCK	188	638		115,379		452,558	27,460	13,397	609,620
WF	LOWLAND WHITE FIR	40,597	11,938		184,566		105,647	25,231	3,415	371,394
NF	NOBLE FIR		413				12,527		6,140	19,080
A	SILVER FIR	636	160				549,797	79,565	90	630,248
AF	ALPINE FIR	3,249	5,327		114,173		56,880	6,089	2,163	187,881
WL	WESTERN LARCH	45,099	48,173		251,385	23	370,449	77,973	14,747	807,849
ES	ENGELMANN SPRUCE	7,528	8,091		77,917		129,823	37,376	9,882	270,617
BC	NORTHERN BLACK COTTONWOOD	9,905	119		7,610		172	1,415		19,221
ASP	ASPEN	70								70
	TOTAL SAW TIMBER	830,403	589,511	2,477	3,660,109	3,571	3,412,462	531,799	137,388	9,167,720

1/ IN ADDITION TO THE SPECIES LISTED WHITEBARK PINE AND OREGON WHITE OAK ARE KNOWN TO OCCUR IN THIS COUNTY, BUT IN NEGLIGIBLE QUANTITIES ONLY.

FOREST STATISTICS FOR YAKIMA COUNTY, WASHINGTON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 2. AREA, IN ACRES OF ALL FOREST COVER TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO AUGUST 1, 1935

SURVEY TYPE NO.	TYPE DEFINITION	PRIVATE	STATE, AVAILABLE FOR CUTTING	COUNTY	INDIAN TRIBAL AND TRUST ALLOTMENT	FEDERAL: PUBLIC DOMAIN, AVAILABLE FOR CUTTING	FEDERAL: NATIONAL FOREST AVAILABLE FOR CUTTING	FEDERAL: NATIONAL FOREST RESERVED FROM CUTTING	RAILROAD SELECTION PENDING	TOTAL
1/1	BARRENS, CITIES, AND UNMEANDERED WATER SURFACES						18,970	9,460		28,430
1/2	NONFOREST LAND: CULTIVATED, GRASS, SAGEBRUSH, ETC.						5,765	180		5,945
4	OAK: FOREST CONTAINING 60% OR MORE OF OAK	165	5		3,960					4,130
5½	PONDEROSA PINE WOODLAND: SCATTERED STANDS OF PONDEROSA PINE ON UNFAVORABLE SITES	3,885	2,145		8,120	125	1,425	10	655	16,365
	PONDEROSA PINE: FORESTS CONTAINING 50% OR MORE OF PONDEROSA PINE									
20.5	PURE PONDEROSA PINE, LARGE: FOREST CONTAINING 80% OR MORE OF PONDEROSA PINE, MORE THAN 22" DBH	46,585	35,515	45	140,520	465	45,735	2,000	5,200	276,065
20	PONDEROSA PINE, LARGE: FOREST CONTAINING 50 TO 80% OF PONDEROSA PINE, MORE THAN 22" DBH	10,965	10,890		44,795	60	21,960	4,835	2,115	95,620
21	PONDEROSA PINE, SMALL: 12 TO 22" DBH	15,890	3,405	225	87,680	5	2,425	85	180	109,895
22	PONDEROSA PINE SEEDLINGS, SAPLINGS, AND POLES: LESS THAN 12" DBH	7,555	1,415	75	7,560		505	65	60	17,235
	PINE MIXTURE: MIXED FOREST CONTAINING 20 TO 50% OF PONDEROSA PINE									
27	PINE MIXTURE, LARGE: 12" OR MORE DBH	3,985	2,725		23,335		31,705	3,990	820	66,560
28	PINE MIXTURE, SMALL: LESS THAN 12" DBH	1,925	1,915		5,275	55	1,755	110	35	11,070
	DOUGLAS FIR: FOREST CONTAINING 60% OR MORE OF DOUGLAS FIR									
7	DOUGLAS FIR, SMALL OLD GROWTH: 22 TO 40" DBH	190	165		6,385		4,030	1,295	240	12,305
8	DOUGLAS FIR, LARGE SECOND GROWTH: 22 TO 40" DBH	125	10				1,335			1,470
9A	DOUGLAS FIR, LARGE POLES: 12 TO 20" DBH						140	65		205
9B	DOUGLAS FIR, SMALL POLES: 6 TO 10" DBH	130	10				190	265		595
10	DOUGLAS FIR, SEEDLINGS AND SAPLINGS: LESS THAN 6" DBH	10	45				485	240		780
	WESTERN RED CEDAR: FOREST CONTAINING 40% OR MORE OF WESTERN RED CEDAR									
17	WESTERN RED CEDAR, LARGE: 24" OR MORE DBH				290		455			745
	FIR-MOUNTAIN HEMLOCK: FOREST CONTAINING 50% OR MORE OF NOBLE FIR, SILVER FIR, ALPINE FIR, OR MOUNTAIN HEMLOCK, OR OF ANY COMBINATION OF THESE SPECIES									
23	FIR-MOUNTAIN HEMLOCK, LARGE: 12" OR MORE DBH	100	210		17,475		74,485	6,050	2,260	100,580
24	FIR-MOUNTAIN HEMLOCK, SMALL: LESS THAN 12" DBH	150	55		5,430		18,290	1,520	70	25,515
	UPPER-SLOPE MIXTURE: MIXED FOREST OF DOUGLAS FIR, THE BALSAM FIRS, WESTERN LARCH, ENGELMANN SPRUCE, WESTERN WHITE PINE, LODGEPOLE PINE, MOUNTAIN HEMLOCK, WESTERN HEMLOCK, RED CEDAR, AND ALASKA CEDAR, OR OF ANY COMBINATION OF THESE SPECIES									
27½	UPPER-SLOPE MIXTURE, LARGE: 12" OR MORE DBH	7,570	11,570		48,620		84,660	23,470	4,665	180,555
28½	UPPER-SLOPE MIXTURE, SMALL: LESS THAN 12" DBH	1,530	3,645		14,140		27,520	3,250	875	50,960
	WHITE FIR: FOREST CONTAINING 50% OR MORE OF WHITE FIR									
29	WHITE FIR, LARGE: 12" OR MORE DBH	250			1,895		245	30	205	2,625
	LODGEPOLE PINE: FOREST CONTAINING 50% OR MORE OF LODGEPOLE PINE									
25	LODGEPOLE PINE, LARGE: 12" OR MORE DBH	985	1,465		3,825		6,650	25		12,950
26	LODGEPOLE PINE, MEDIUM: 6 TO 10" DBH	1,260	1,185		19,230		6,360	100	410	28,545
26A	LODGEPOLE PINE, SMALL: LESS THAN 6" DBH	65		35	5,610		1,125	35		6,870
	HARDWOODS: FOREST CONTAINING 50% OR MORE OF HARDWOODS									
31.5	HARDWOODS, LARGE: 12" OR MORE DBH	2,620			2,015					4,635
31	HARDWOODS, SMALL: LESS THAN 12" DBH	1,670	75		340					2,085
33	SUBALPINE: FOREST AT UPPER LIMITS OF TREE GROWTH, USUALLY UNMERCHANTABLE	3,115	4,105		9,965		59,765	7,090	2,445	86,485
	NONRESTOCKED CUTOVER: LOGGED AREA NOT SATISFACTORILY RESTOCKED AND NOT CARRYING A RESIDUAL STAND OF 1 M OR MORE PER ACRE									
35A	CUT SINCE BEGINNING OF 1920	235			235					470
35B	CUT BEFORE 1920				55					55
	DEFORESTED AREA: NONRESTOCKED AREA DEFORESTED OTHERWISE THAN BY CUTTING									
37	DEFORESTED BURN	215			6,965		1,565	65	50	8,860
38	NONCOMMERCIAL ROCKY AREA	4,435	4,835	30	13,300	245	21,690	1,220	2,085	47,840
	TOTAL	115,610	85,390	410	477,020	955	439,235	65,495	22,370	1,206,445

1/ ACREAGES FOR THIS TYPE WERE COMPUTED FOR NATIONAL FORESTS ONLY.

FOREST STATISTICS FOR YAKIMA COUNTY, WASHINGTON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 3. AREA, IN ACRES, OF GENERALIZED FOREST TYPES, BY OWNERSHIP CLASS
DATA CORRECTED TO AUGUST 1, 1935

TYPE DEFINITION		PRIVATE	STATE, AVAILABLE FOR CUTTING	COUNTY	INDIAN, TRIBAL AND TRUST ALLOTMENT	FEDERAL: PUBLIC DOMAIN, AVAILABLE FOR CUTTING	FEDERAL: NATIONAL FOREST AVAILABLE FOR CUTTING	FEDERAL: NATIONAL FOREST RESERVED FROM CUTTING	RAILROAD SELECTION PENDING	TOTAL
NONFOREST LAND 1/										
SURVEY TYPES 1 AND 2							24,735	9,640		34,375
WOODLANDS: OAK										
SURVEY TYPE 4		165	5		3,960					4,130
HARDWOODS: COTTONWOOD AND ASPEN										
SURVEY TYPES 31 AND 31.5		4,290	75		2,355					6,720
PONDEROSA PINE 12" OR MORE DBH										
SURVEY TYPES 5½, 20.5, 20, 21, AND 27		81,310	54,680	270	304,450	655	103,250	10,920	8,970	564,505
PONDEROSA PINE LESS THAN 12" DBH	ON CUTOVER AREAS	8,705	1,450	75	3,870	55	645	65		14,865
SURVEY TYPES 22 AND 28	ON OLD BURNS	775	1,880		8,965		1,615	110	95	13,440
	TOTAL	9,480	3,330	75	12,835	55	2,260	175	95	28,305
CONIFERS 12" OR MORE DBH OTHER THAN PONDEROSA PINE AND LODGEPOLE PINE										
SURVEY TYPES 7, 8, 9A, 17, 23, 27½, AND 29		8,235	11,955		74,665		165,350	30,910	7,370	298,485
CONIFERS LESS THAN 12" DBH OTHER THAN PONDEROSA PINE AND LODGEPOLE PINE	ON CUTOVER AREAS	10	45				95			150
SURVEY TYPES 9B, 10, 24, AND 28½	ON OLD BURNS	1,810	3,710		19,570		46,390	5,275	945	77,700
	TOTAL	1,820	3,755		19,570		46,485	5,275	945	77,850
LODGEPOLE PINE 12" OR MORE DBH										
SURVEY TYPE 25		985	1,465		3,825		6,650	25		12,950
LODGEPOLE PINE LESS THAN 12" DBH										
SURVEY TYPES 26 AND 26A		1,325	1,185	35	24,840		7,485	135	410	35,415
NONCOMMERCIAL										
SURVEY TYPES 33 AND 38		7,550	8,940	30	23,265	245	81,455	8,310	4,530	134,325
NONSTOCKED CUT-OVER AREAS AND DEFORESTED BURNS										
SURVEY TYPES 35A, 35B, AND 37		450			7,255		1,565	65	50	9,385
TOTAL		115,610	85,390	410	477,020	955	439,235	65,465	22,370	1,206,445

1/ ACREAGES FOR THESE TYPES WERE COMPUTED FOR NATIONAL FORESTS ONLY.

FOREST STATISTICS FOR YAKIMA COUNTY, WASHINGTON
FROM INVENTORY PHASE OF FOREST SURVEY

TABLE 4. AREA OF FOREST LAND, BY SITE QUALITY
DATA CORRECTED TO AUGUST 1, 1935

TYPE	SITE QUALITY CLASS[1]		AREA			
				PERCENTAGE OF—		
			ACRES	CONIFEROUS FOREST LAND CLASSIFIED AS TO SITE QUALITY	TOTAL FOREST LAND[2]	TOTAL AREA OF COUNTY
PONDEROSA PINE, PONDEROSA PINE MIXTURE, AND WHITE FIR	PONDEROSA PINE	II	5,320	0.5	0.5	0.2
		III	95,620	9.8	8.2	2.9
		IV	296,750	30.3	25.3	9.2
		V	179,940	18.4	15.3	5.5
		VI	19,120	2.0	1.6	0.6
			596,750	61.0	50.9	18.4
DOUGLAS FIR, FIR-MOUNTAIN HEMLOCK, AND UPPER-SLOPE MIXTURE	DOUGLAS FIR	III	10,005	1.0	0.9	0.3
		IV	108,250	11.1	9.2	3.3
		V	263,465	26.9	22.5	8.2
			381,720	39.0	32.6	11.8
TOTAL			978,470	100.0	83.5	30.2
LODGEPOLE PINE			48,365		4.1	1.5
NONCOMMERCIAL ROCKY AREAS			47,840		4.1	1.5
SUBALPINE			86,545[3]		7.4	2.7
OAK-MADRONE			4,130		0.3	0.1
HARDWOOD			6,720		0.6	0.2
TOTAL			193,600		16.5	6.0
GRAND TOTAL			1,172,070		100.0	36.2

1/ THE "SITE QUALITY" OF A FOREST AREA IS ITS RELATIVE PRODUCTIVE CAPACITY, DETERMINED BY CLIMATIC, SOIL, TOPOGRAPHIC, AND OTHER FACTORS. THE INDEX OF SITE QUALITY IS THE AVERAGE HEIGHT OF THE DOMINANT STAND AT THE AGE OF 100 YEARS. SIX SITE QUALITY CLASSES ARE RECOGNIZED FOR PONDEROSA PINE AND FIVE FOR DOUGLAS FIR, CLASS I BEING IN EACH CASE THE HIGHEST. IN THE SURVEY THE PONDEROSA PINE AND DOUGLAS FIR CLASSIFICATIONS, RESPECTIVELY, WERE USED NOT ONLY FOR TYPES OF WHICH THESE SPECIES ARE CHARACTERISTIC COMPONENTS BUT FOR OTHER TYPES FOR WHICH NO SITE QUALITY CLASSIFICATIONS HAVE BEEN DEVELOPED.

2/ THE COUNTY HAS A TOTAL AREA OF 3,237,760 ACRES (ACCORDING TO THE 1930 CENSUS), OF WHICH 1,172,040 ACRES (36.2 PERCENT) IS FOREST LAND AND 2,065,720 ACRES (63.8 PERCENT) IS NONFOREST LAND.

3/ INCLUDES 60 ACRES OF DEFORESTED BURN (TYPE 37).

FOREST STATISTICS FOR YAKIMA COUNTY, WASHINGTON

FROM INVENTORY PHASE OF FOREST SURVEY

FIGURE 2. DISTRIBUTION OF SAW-TIMBER VOLUME BY SPECIES, ALL OWNERSHIP CLASSES (FROM TABLE I)

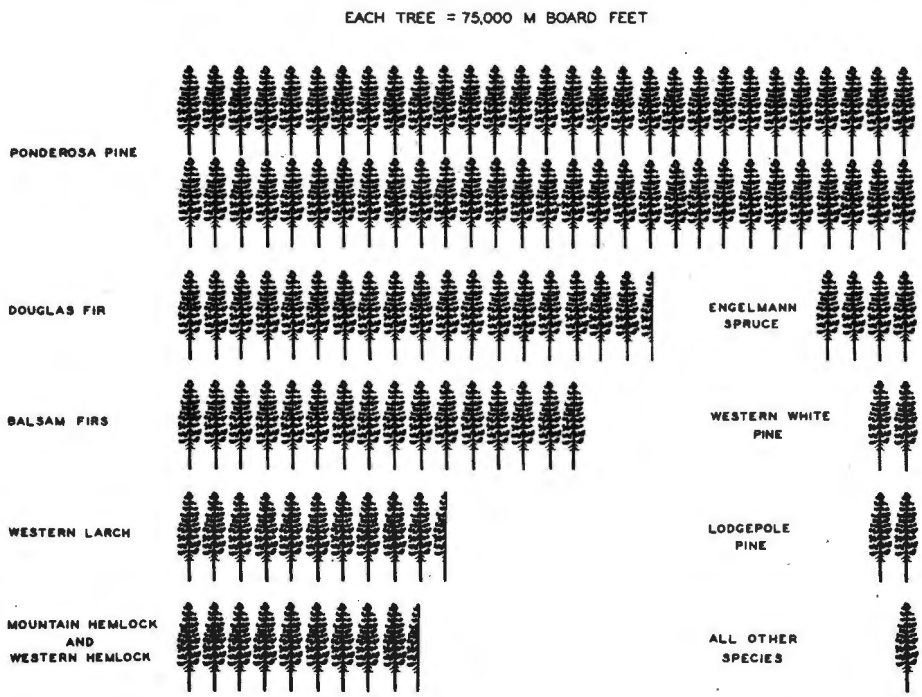

FIGURE 3. OWNERSHIP OF FOREST LAND (FROM TABLE 2)

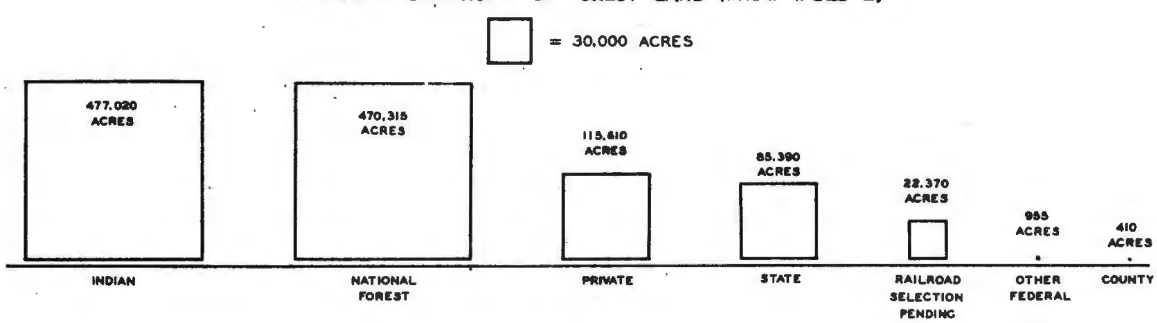

FIGURE 4. DISTRIBUTION OF FOREST LAND BY GENERALIZED TYPES, ALL OWNERSHIP CLASSES (FROM TABLE 3)